

Nov. 6, 1945.

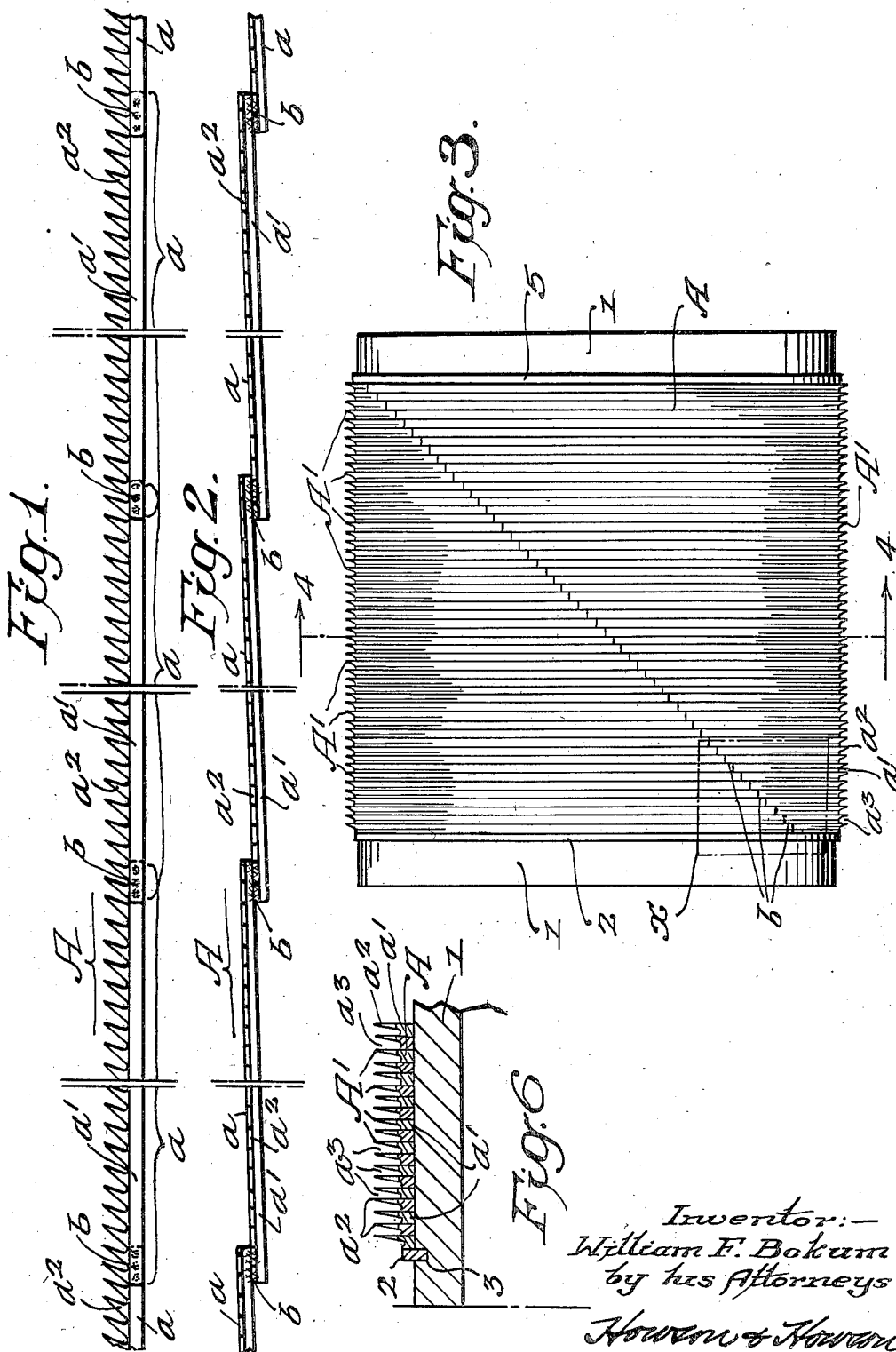
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2,388,631

GARNETT CYLINDER

Filed Dec. 31, 1943

2 Sheets-Sheet 1



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UNITED STATES PATENT OFFICE

2,388,631

GARNETT CYLINDER

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Application December 31, 1943, Serial No. 516,505

4 Claims. (Cl. 19—114)

This invention relates to the clothing of the swifts, doffers, workers, strippers and other cylindrical tooth faced elements of carding or Garnett machines, and to a method for applying the clothing to and securing it in place on the peripheral faces of these cylindrical carding elements.

Heretofore, the toothed carding surfaces of the cylinders, etc. of a carding or Garnett machine have been formed by a continuous wire comprising an upstanding toothed edge and a transversely thickened plain base wound in successive laterally abutting convolutions on the peripheral surface of the cylinder or roll, with the opposite ends of the wire anchored to the cylindrical element adjacent the opposite ends respectively thereof; or the base of the wire was laid in a continuous spiral groove cut in the peripheral face of the cylindrical element.

Such construction did not afford automatic cleaning of the carding surface to remove fibres or foreign matter which became jammed in the bases of the grooves formed by and between the adjacent upstanding toothed rib portions of the clothing wire, consequently it was necessary to discontinue the operation of the Garnett machine periodically for a sufficient length of time to permit the carding surfaces to be cleaned manually.

One of the objects of the present invention is to clothe the cylindrical carding elements of a card or Garnett with a continuous toothed wire laid on the peripheral face of each cylinder, etc., in such a manner as to form a multiplicity of toothed rings arranged in parallel relation to each other in planes at right angles to the axis of rotation of the cylinder with annular grooves formed by and between the laterally spaced rings of teeth, whereby cleaning of the clothing may be automatically effected, continuously or periodically, without discontinuing the operation of the machine, by resilient fingers or the equivalent operating in the annular grooves between the teeth, to plow out any fibres or foreign matter which may become jammed down in the grooves, while the cylindrical elements continue to rotate.

In the accompanying drawings:

Fig. 1 is an enlarged side elevation of a Garnett wire made in accordance with the present invention;

Fig. 2 is a plan view of the wire shown in Fig. 1;

Fig. 3 is a side view of a cylinder clothed with a wire similar to that shown in Figs. 1 and 2;

Fig. 4 is an enlarged transverse section taken on the line 4—4, Fig. 3;

Fig. 5 is an enlarged view of the outlined area X of the toothed face of the cylinder shown in Fig. 3; and

Fig. 6 is a sectional view taken on the line 6—6, Fig. 5.

According to the present invention, a continuous length of ordinary regular Garnett wire, comprising a thick plain base *a1* and a thinner upstanding toothed rib or flange *a2* is cut into strips *a*, *a* of equal lengths substantially equal each to the circumference of the cylinder or other roll *1* which is to be clothed, as designated in Fig. 4.

The strips *a*, *a* are then arranged with one end of one strip *a* in laterally offset longitudinally overlapping relation to the opposite end of another of the strips *a*, successively, and the adjacent overlapping ends are welded, brazed, or otherwise permanently secured together, as designated at *b*, *b*, to produce a continuous composite strip *A*.

One end of the composite strip *A* is anchored, as by welding, brazing, etc. to the roll *1*, or to a ring *2* set in a groove *3* against relative rotation, as by welding, swaging, sweating, or otherwise.

The continuous composite strip *A* is then wound on the peripheral face of the roll or cylinder *1*, in a manner similar to the winding of a conventional wire on a roll heretofore, i. e. the roll is rotated while the wire is placed under longitudinal tension, causing the wire to be wound tightly around the roll.

However, instead of the composite wire *A* being laid in spiral convolutions on the face of the roll *1*, as heretofore in winding a conventional wire on a roll, the wire *A* is wound on the roll in a series of rings *A1*, *A1*, with the bases *a1*, *a1* of the wire in laterally abutting relation to each other and with annular grooves *a3*, *a3* formed between the successive upstanding toothed ribs *a2*, *a2*, due to the sections *a*, *a* being offset laterally at intervals substantially equal to the circumference of that face of the roll *1* on which the composite wire *A* is laid.

The second end of the composite wire *A* is anchored to the roll *1* or a second ring *5* secured to the roll *1*, in the same general manner as described in regard to the anchoring of the first end of the wire *A* to the roll *1*.

I claim:

1. Clothing for a cylindrical carding element, comprising a series of rings respectively composed of sections of a toothed carding wire each sub-

stantially equal to the circumference of said element and disposed in laterally abutting relation to each other on the periphery thereof with opposite ends of adjacent sections in circumferentially overlapping relation to each other and with said overlapping ends permanently attached to each other.

2. Clothing for a cylindrical carding element, comprising a series of rings respectively composed of sections of a toothed carding wire each substantially equal to the circumference of said element and disposed in laterally abutting relation to each other on the periphery thereof with opposite ends of adjacent sections in circumferentially overlapping relation to each other and with said overlapping ends permanently attached to each other, and means for securing terminal sections of the series to said element.

3. A card clothing wire composed of sections of predetermined lengths respectively arranged in laterally offset longitudinally overlapping relation, with the overlapping portions of successive

sections permanently attached to each other.

4. Clothing for a cylindrical carding element, comprising a series of rings respectively composed of sections of a wire including a base of predetermined width and a toothed rib of lesser width projecting therefrom and extending longitudinally thereof, said sections being disposed with the bases thereof in laterally abutting relation to each other on the periphery of said element and said ribs being spaced apart laterally and providing a series of annular grooves therebetween in a toothed face formed on said element by said series of wires, said sections each being substantially equal in length to the circumference of said element and disposed on the periphery of said element with opposite ends of adjacent sections in overlapping relation to each other circumferentially of said element, with the bases of said overlapping ends permanently attached to each other.

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